

DEVELOPMENT OF AN EFFECTIVE ELECTRONIC LEARNING 8E BASED BLENDED LEARNING ON CONNECTIVISM MODEL FOR VIRTUAL UNIVERSITY

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ABSTRACT

Nowadays, Thai education has more improved than before since both the government pay more attention and technology can support in many ways of learning. Especially, traditional universities try to be virtual universities. The Development of an Effective e-Learning 8E Based on Connectivism Model for Virtual University based on appropriation of Thai learning technologies, cost, culture, students and instructors. These are the most important factors in determining before developing of e-Learning. This research is aimed to support instructors and students in order to know how to change traditional idea to a new paradigm shift in learning. This friendly e-Learning model can optimize the utilization of information technology resources and their cost. It can reduce cost and time for a learning style. The instructors and students can access e-Learning via the Internet at any time and place. The online learning content can be presented in texts, graphics, audio, video, and multimedia animation. The main features of the model are student information storage section as well as comment and peer to peer interview information from the instructors. The e-Advisor, Web page engine tools, e-Evaluation are added to this proposed model. In addition, web-board, hyperlink to other source are also available to students.

The model can support asynchronous online learning for students to prepare the lessons before the class begins and review all materials after the classes. This style of learning is a fully student-center approach.

The purposes of this research were to construct Development of Electronic Learning 8E Based on Connectivism Model for Virtual University. The proposed model is developed for instructors and of students between experimental group learned by instructional and control group learned by web-based instruction and creative thinking score after learning via the Learning Package, to compare creative Students in order to teach and learn more effectively. Students to study correlation between learning achievement thinking score between before and after learning via the Electronic Learning 8E Based on connectivism model, to compare the pre-test and the post-test learning achievement score and study the students satisfaction toward the Electronic Learning 8E Package online learning with the constructed instructional model by researcher. The population for the research was 100 Undergraduate students who study in Rajamangala University of Technology . The subject for the experiment phase was 36 students who were selected by cluster random sampling. The result of the research were found that the efficiency of the Electronic Base Learning Package met the criteria score at 81.53/80.10, using scores to determine a correlation coefficient for the learning achievement had significantly positive relationship with the creative at the level of .05 after using Electronic Base Learning Package the Undergraduate students and learning achievement scores were significantly increased at .05 level, and the students were satisfied with Electronic Base Learning Package at 'high' level. They can study anywhere and anytime at their Convenience. This style of learning is a fully student-center approach.

KEYWORDS: 8E-Learning, Asynchronus, E-evaluation, Connectivism, Blended Learning

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INTRODUCTION

The present education has advancements for human development that supports people both mind and morality along with information technology development era. The education plays an important role in both society and country development. According to education technology legislation, it pushes effort on education facilities that can support several means of education ranging from traditional system to lifelong learning system. All education system aim at human resource development by using technology as supporting tools to learn, follow up, assess, and evaluate through the technologically appropriated learning process. Currently, e-Education can be applied in any part of society as part of knowledge-based society [4].

Today, learning process in a university has been a major role in which much improved by adapting internet technology in all level of education. Thailand universities have strategies to design and implementation of e-Learning model for virtual university. This will support student interaction, in which they can select time and place to study through evaluation method with e-Learning model via Internet. Internet itself has benefit as a global library that connects every part of the world together in a real-time basis. Virtual University has launched e-Learning as the tool of distance learning via Web Page.

UNIVERSITY PROBLEMS AND RESEARCH

Objectives

There are some teaching problems in universities such as one subject is teaching by several instructors in which lack of teaching consistency. Also, there are limited budget to provide teaching facilities.

and to enhance learning capability of people through the internet. The research objectives are to design and Implementation of effective e-Learning model for Virtual University and to enhance learning capability of people through the internet.

- To develop electronic learning styles e-Learning based Blended learning on Connectivism was depressed for undergraduates, quality and performance.
- To compare the pretest to the achievement of learning styles based electronic e-Learning based Blended Learning on Connectivism was depressed for Virtual University.
- To assess the satisfaction of students developed depression. through the online web from to electronic e-Learning based Blended Learning on Connectivism for Virtual University.

RESEARCH CONCEPTUAL FRAMEWORK

The proposed e-Learning model will use the following approaches.

- Create learning online via the Internet and focus on the content lesson and attractive media.
- Create the lesson steps and link to education network.
- Create lessons and data warehouse for examination. In addition, the online learning content can present in texts, graphics, audio, video and multimedia animation.
- Create data security management for each lesson and self test examination.

- Create e-Learning web board and interaction among the learners.
- Create supporting system such as e-Advisor through Internet.
- Create automatic lesson template for instructors in order to create teaching homepage.
- Create online electronic evaluation.

RELATED RESEARCH

Mr. Vincenzo Devito [1], at knowledge systems institute, USA, stated on his dissertation entitle, “a survey of distance learning”, May 1996, he found that the distance learning is defined from teaching plan with using information technology to access information and communicate among instructors and learners.

Brandon Hall [5], at Cisco research institute, USA Stated on article “Learning goes online: How companies can use networks to turn change into a competitive advantage,” said that when company used e-Learning, it could reduce the expenses by 40 % while increase the learning efficiency by 30% and save the time by 30%.

Kittisak Suwanaruck and Prasong Praneetpolgrang [2], Royal Thai Air Force Academy, has worked on research entitle: “The Design and Implementing Virtual Classroom.” They recommended how to gain advantage on e-Learning. Students need to pay more attention and have good discipline on learning. Also, it should add e-Learning to normal class learning.

The survey report from e-Learners.com on distance learning [4]said that distance learning can improve learner attitude and learning performance.

SYSTEM DEVELOPMENT APPROACH TO

E-Learning

There are many methods and system tools to support e-Learning. In system development, the researcher chooses system development life cycle (SDLC), system analysis with context diagram and dataflow diagram to be basic developing tools. Since the advanced information and communication technology can support distance learning concept to be realistic. Teaching can be occurred at anytime and anyplace which based on both LAN and WAN. It is both synchronous and asynchronous learning.

Synchronous Learning Model

Synchronous learning need exactly set schedule for students, the time and place for learning such as in class learning, teleconference, and videoconference. In Synchronous learning style, it includes tools such as chat, shared white boards, teleconferencing, Videoconferencing, MOOs and MUDs. etc.

Asynchronous Learning Model

Asynchronous Learning Model can be both real-time and non-real-time learning through Internet. It uses applications of information technology such as academic webpage, webboard, and e-mail. This model can scalable learning opportunity among students, instructors, and people who interested. In addition, with asynchronous learning model, the learning method is flexible. That means the interaction between students and instructors can be reschedule. A discussion on web is possible., i.e., Web Forums, Computer Bulletin Board(BBS).For Asynchronous learning tools such as e-mail, Listservs, Web Forums News groups, BBS. Etc

RESEARCH RESULTS AND DISCUSSIONS

The concept of design and Implementation of E-learning Model for Virtual University need activities between instructors and students through university network. First of all, any information access can accomplish on LAN, Intranet, and Internet. Some important steps that instructors should do in order to optimize learning are:

- Define teaching and learning objective.
- Determine student's attitude and learning potential.
- Design academic courses
 - Lesson curriculum.
 - Set content priority.
 - Determine duration of study time and academic schedule.
 - Determine the study method.
 - To find appropriate technology and communication media for each course.
 - Determine evaluation method
 - Determine student's knowledge background and skill.
 - Implementing academic courses.
- Determine all possible activities of e-Learning through internet
- Prepare e-Learning environment such as:
 - Survey IT infrastructure
 - Determine location & equipments
 - Develop lesson webpage follow course outline.
 - Develop database files for each course.
- Set orientation program to the learners; for instance,
 - Inform the learners about course objectives and the plan how to learn.
 - With doing students assessment in order to confirm if they are ready to learn.
- Implementing the e-Learning in web page follows the requirements and specifications. The activities in web page are included:
 - Motivate the learners at the first paragraph of content with multimedia animation.
 - Inform the student and lesson objectives in each topic.
 - Review and conclude the previous topics and how to relate them to the current topic.

- Introduce guideline to the next topics.
- Students shared knowledge, document and course exercises among each other.
- At student homepages, there have evaluation results and feedback from instructors.
- Student evaluation can be evaluated for both during the study and at the end of course. It is also evaluated instructor in each course. Moreover, the supporting e-Learning components has shown in Figure 1.



Figure 1: The Supporting E-Learning Components

In Figure 2-3 explain component in e-Learning model and context diagram description of interaction between students and learning system.

E-Learning Techniques

Based on research results, the researcher stated that the additional learning techniques have as followed:

- To inform students in advance to learn through the web with specific URLs by e-mail.
- All document presentations are web-based.
- Formal Discussions and seminar are debated on web using e-mail and videoconference.
- Instructors post open-ended questions on the web.

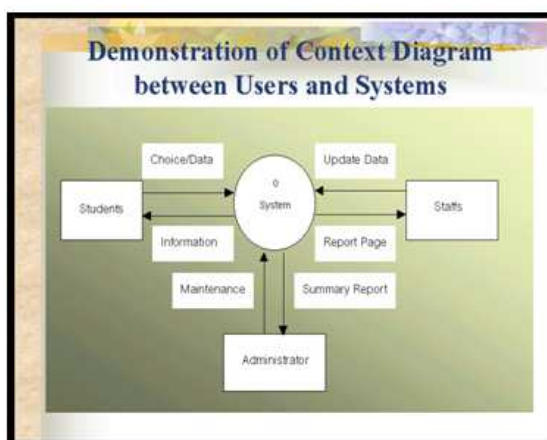


Figure 2: Context Diagram of E-Learning Systems

Then, students take change to answer those questions.

- To brainstorm among students to work together in team in order to find the right answers.
- Determine the task setting in each learning process.
- Classroom evaluation by quizzes with multiple choices and questions.
- Dynamic group discussion on given topics.

EVALUATION ON DEVELOPMENT OF EFFECTIVE ELECTRONIC LEARNING

8E Based Blended Learning on Connectivism Model

The researcher applied this e-Learning model to the course at university namely, Introduction to Computer and Information Science, the student evaluation results on web-based course have follows

- Students are so interested in online learning since it is an interactive learning.
- When instructors combined e-Learning with traditional learning, the learning efficiency are in high level.
- With learning through internet from classroom, students can gain understand the courses in high level.
- The online learning can influence students in very high level when the online courses have often update and upgrade.
- One of the critical success factors for developing e-Learning is the method how to motivate student's attitude.

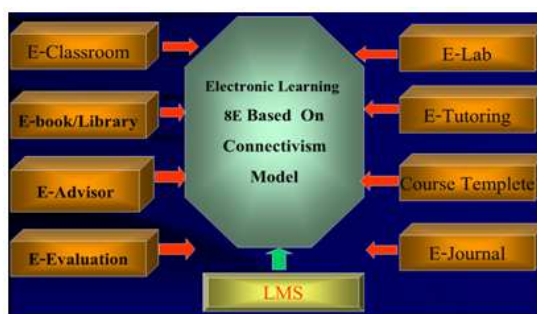


Figure 3: The Electronic Learning 8E Based Blended Learning on Connectivism Model

ATTITUDE AND SATISFACTION OF INSTRUCTORS ON E-LEARNING 8E BASED BLENDED LEARNING ON CONNECTIVISM

The researchers random 100 instructors as a case study. The results are

- A moderate number of instructors agreed on the idea of implementing e- Learning for every course. The interactivity between instructor and students is considered vital in many courses.
- A moderate number of instructors agreed that e-Learning can replace the traditional classroom learning.
- The research finding pointed out that the majority of instructors indicated that the e-Learning need to be continuously developed and improved in order to keep the course contents updated. Also, the web site should be made appealing by featuring with a lot of graphics and animation.
- Instructors should know how to apply IT for their courses. Then, they can develop web-based courses.

- The e-Learning management system will automatically monitor the students to access the web site and their studying behavior. It also generate pre-test and post-test.

E-LEARNING CONTENT EVALUATION AND ANALYSIS

In this research, the researcher analysis and suggest the way how to evaluate the web content as follows:

- Identify the purpose of the courses.
- Evaluate the identification of the web site. The information and illustrations on the homepage should make students know what the content is all about, as does the front cover of the book.
- Evaluation Authority
- Evaluate the layout and design.
- Identify the appropriate links to other web sites and resources.
- Examine the text content of the web site, graphics, and audio, to conform with the overall concept.

The student evaluation will be done on both formative and summative basic, which include these 4 approaches

- Evaluate the individual's grade for the course.
- Peer-to-Peer evaluation: The reciprocal evaluation between the student and the chosen partner.
- Continuous evaluation: The students are required to submit the assignments on the weekly basis.
- Final course evaluation: The students are required to send the course evaluation via email.

CONCLUSIONS

The research about the design of effective e-Learning pointed out that the respondents are interested in e-Learning and agree that it is the most effective way of self-study. Since the students can review the content on the self-paced basis and they can access from anywhere and at anytime. Besides, the traditional classroom teaching method requires instructors to prepare accumulated materials to suit classroom teaching equipment, while in the e-Learning only the content need to be developed. Student results are found to be more courageous to ask questions, give comments, and participate in the discussions, in comparison to the traditional classroom method. This research finding indicated the potential of student capability is improved.

The interactivity also helps improve the students skills for utilizing the information technology. The effectiveness of e-Learning depends on the continuous improvement and update the contents and features, which will make the learning more appealing. This will also make the students more enthusiastic for revision. The exchange of ideas and comments on the web board will broaden the learning horizon. However, some numbers of respondents do not agree with e-Learning since they believe that the students need very strong self-discipline to accomplish. The instructors must prepare the content in advance and need to be trained to develop appropriate contents and teaching approaches to the best suit of e-Learning environment.

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REFERENCES

1. Vincenzo Devito, P, "A survey of distance leaning," M.S. Thesis, knowledge Systems Institute, May 1996, USA.
2. Kittisak Suwanaruck and Prasong Praneetpolgrang, "The Design and Implementing Virtual Classroom," project research, Royal Thai Air Force Academy, December 2001, Thailand.
3. Porter Lynnette R, *Creating the Virtual Classroom : Distance Learning with the Internet*, John Wiley & Sons, Inc,1997.
4. Rosenberg Marc J, *E-Learning Strategies for Delivering Knowledge in the Digital Age*, McGraw-Hill, Inc, 2001.
5. Brandon Hall, "Learning goes online: How companies can use networks to turn change into a competitive advantage," *Packet Cisco systems Users Magazine Vol.12, No.3, 2000.*
6. Turban, McLean and James Wetherbe, 2nd Edition, *Information technology for Management*, John Wiley & Sons, Inc., 2000.
7. Ramez Elmasri and Shamkant B. Navathe, *Fundamentals of Database Systems*, 3rd Edition, Addison-Wesley Publishing Company, 2000.
8. John Ainley, Phillip Arthur, Pamela Macklin and Bruce Rigby, "Capacity Building of Thai Education Reform: Thai Learning Technologies 2010," *Final Report to the Royal Thai Government, 2000.*
9. Roger C. Schank, *Designing World-Class E-Learning*, McGraw-Hill, Inc, 2002.

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